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EXAMINER	
WOOD, JR, STEVEN A	
ART UNIT	PAPER NUMBER
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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/597,258	LIM ET AL.	
	Examiner	Art Unit	
	STEVEN WOOD	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/18/2006*.

2a)☐ This action is FINAL. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 July 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/18/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The instant application having Application No. 10/597258, which was filed on 02/02/2005 is presented for examination by the examiner.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 804, 805, 806, 811, 812, 813, 814, 815, 816 & 817 in Fig. 12. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to because Figs. 8 & 9 show steps that are not described in the specification; specifically the decision loop starting with "no error detected using frame fcs" provides a pathway from step 601 to step 606 or from step 601 to the end of the decision process without labeling or description in the specification of any intervening steps. In the specification Applicant acknowledges this decision loop as the known MPDU process, but in both Figs. 8 & 9 this section of the decision loop deals only with MSDUs with no indication of MPDUs. Also, applicant should draw a dotted line around the prior art section of the decision loop and indicate it as "prior art" if it is such. Fig. 12 also needs to be labeled as "prior art" even though it is identified as such in the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 17 - 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 17 - 22 are directed to "a computer readable data compartment aggregation packet frame." Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's

functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory (MPEP 2106.01).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1 – 14, & 17 – 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Ho, et al., (US 20030169769 A1) (hereinafter Ho).

10. Regarding claim 1, Ho discloses a composing method for composing a data compartment aggregation packet frame comprising generating a plurality of data compartments, (Figs. 6 & 11; paragraph 41; one or more frame subbody fields 132 (data compartments)), each having a compartment identifier, an MSDU (media access control data unit) and a compartment FCS (frame check sequence), (Figs. 6 & 11; paragraph 41; header 116 preferably includes a frame subbody count field 126, and a sequence control field 128 (compartment identifiers). Each subbody field 132 contains an MSDU or a fragment of an MSDU; paragraph 38; each fragment is transmitted in a separate frame with its own MAC header (compartment identifier) and FCS (compartment FCS) information as well as its own PHY (physical layer) header and preamble

(compartment identifiers)), combining the data compartments to define a data carriage, (Figs. 6 & 11; paragraph 40; aggregation frame (defined data carriage) permits multiple MSDUs and/or multiple fragments of the same or different MSDUs to be placed into a single 802.11 MAC (media access control) frame; paragraph 41; aggregation frame 120 contains a MAC header 116, a frame body 118; paragraph 46; aggregation frame 120 includes at least two subbody fields 132 (combined data compartments)), generating a carriage header to be located in front of the data carriage to define a carriage, and generating a MAC header to be located in front of the carriage, (Figs. 6 & 11; paragraph 46; MAC header 116 (carriage or "aggregation frame" header) and frame body 118 include information pertinent to aggregating MSDUs or fragments thereof. Some of this information is relevant to specifying that the frame is an aggregation frame and other information is relevant to specifying how the data is aggregated in the frame body 118 (defining a carriage)), said MAC header including a portion allocated with a unique bit pattern, (Table I; paragraph 46; the header 116 preferably includes a frame control field 122 (unique bit patterns detailed in Table I), a DTAID (direction traffic stream and association identifier) field 124, a frame subbody count field 126, and a sequence control field 128), and generating a frame FCS for error detection in the MAC header and the carriage, (Figs. 6 & 11; paragraph 41; aggregation frame 120 comports with conventional 802.11 frame protocol in that it contains a MAC header 116, a frame body 118 and a frame check sequence (FCS) 134. The FCS 134 enables error detection and is implemented in accordance with conventional 802.11 protocol).

11. Regarding claim 2, the rejection of claim 1 is incorporated and only further limitations will be addressed. Ho discloses a composing method wherein said carriage header includes a

compartment count indicating the number of data compartments, a compartment length information indicating the length of each of the data compartment and a header FCS, (Figs. 6 & 11; paragraph 41; aggregation frame 120 contains a MAC header 116, a frame body 118 and a frame check sequence (FCS) 134. MAC header 116 (carriage header) preferably includes a frame subbody count field 126 (compartment count), and a sequence control field 128. The frame body 118 preferably includes one or more subbody length fields 130 (compartment length information); paragraph 44; frame subbody count field 126 indicates the number of frame subbodies 132 contained in the frame 120; paragraph 45; subbody length field 130 specifies the length of the associated MSDU, or fragment thereof, contained in the corresponding subbody 132).

12. Regarding claim 3, the rejection of claim 1 is incorporated and only further limitations will be addressed. Ho discloses a composing method wherein said compartment identifier includes only a compartment sequence control number, (Figs. 6 & 11; paragraph 44; each subbody 132 has an associated sequence control field 128 (compartment identifier sequence control number). The sequence control fields 128 contain sequence control values for each of the frame subbodies 132. The sequence control values include the sequence number of the MSDU in a corresponding frame subbody field 132).

13. Regarding claim 4, the rejection of claim 1 is incorporated and only further limitations will be addressed. Ho discloses a composing method wherein said compartment identifier includes only a flow identifier and a compartment sequence control number, (Figs. 6 & 11;

paragraph 44; sequence control field 128 (compartment identifier sequence control number) may also include a fragment number (flow identifier). All fragments comprising an MSDU are assigned the same sequence number but incremental fragment numbers. Thus, if the corresponding frame subbody field 132 contains a fragment of an MSDU, rather than a complete MSDU, the fragment number in the sequence control field 128 includes the correct fragment number).

14. Regarding claim 5, the rejection of claim 1 is incorporated and only further limitations will be addressed. Ho discloses a composing method wherein said compartment identifier includes only a compartment recipient address, and a compartment sequence control number, (Figs. 6 & 11; paragraph 44; each subbody 132 has an associated sequence control field 128 (compartment identifier sequence control number); paragraph 41; each subbody field 132 contains an MSDU or a fragment of an MSDU; paragraph 38; each fragment is transmitted in a separate frame with its own MAC header (compartment identifier); paragraph 57; a standard 802.11 (MAC) data frame includes four address fields that may include a receiver address and a destination address (compartment recipient address)).

15. Regarding claim 6, the rejection of claim 1 is incorporated and only further limitations will be addressed. Ho discloses a composing method wherein said compartment identifier includes only a compartment recipient address, a flow identifier and compartment sequence control number, (Figs. 6 & 11; paragraph 44; sequence control field 128 (compartment identifier sequence control number) may also include a fragment number (flow identifier).

All fragments comprising an MSDU are assigned the same sequence number but incremental fragment numbers. Thus, if the corresponding frame subbody field 132 contains a fragment of an MSDU, rather than a complete MSDU, the fragment number in the sequence control field 128 includes the correct fragment number; paragraph 41; each subbody field 132 contains an MSDU or a fragment of an MSDU; paragraph 38; each fragment is transmitted in a separate frame with its own MAC header (compartment identifier); paragraph 57; a standard 802.11 (MAC) data frame includes four address fields that may include a receiver address and a destination address (compartment recipient address)).

16. Regarding claim 7, the rejection of claim 1 is incorporated and only further limitations will be addressed. Ho discloses a composing method wherein said compartment identifier includes a MAC header, (paragraph 38; each fragment is transmitted in a separate frame with its own MAC header).

17. Regarding claim 8, Ho discloses a composing apparatus for composing a data compartment aggregation packet frame comprising: means for generating one or more data compartments, (Figs. 1, 3 & 5; paragraph 36; each station 100, 102 comprises host logic 104 (e.g., notebook computer, handheld computer, PDA, etc.) which communicates with another station via a wireless medium 112 using a MAC sublayer 106 and a PHY layer 108; Figs. 6 & 11; paragraph 41; one or more frame subbody fields 132 (data compartments)), each having a compartment identifier, an MSDU and a compartment FCS, (Figs. 6 & 11; paragraph 41; header 116 preferably includes a frame subbody count field 126, and a sequence control field 128

(compartment identifiers). Each subbody field 132 contains an MSDU or a fragment of an MSDU; paragraph 38; each fragment is transmitted in a separate frame with its own MAC header (compartment identifier) and FCS (compartment FCS) information as well as its own PHY header and preamble (compartment identifiers), means for combining the data compartments to define a data carriage, (Figs. 1, 3 & 5; paragraph 36; paragraph 40; aggregation frame (defined data carriage) permits multiple MSDUs and/or multiple fragments of the same or different MSDUs to be placed into a single 802.11 MAC frame; paragraph 41; aggregation frame 120 contains a MAC header 116, a frame body 118; paragraph 46; aggregation frame 120 includes at least two subbody fields 132 (combined data compartments), means for generating a carriage header to be located in front of the data carriage to define a carriage, and means for generating a MAC header to be located in front of the carriage, (Figs. 1, 3 & 5; paragraph 36; Figs. 6 & 11; paragraph 46; MAC header 116 (carriage or "aggregation frame" header) and frame body 118 include information pertinent to aggregating MSDUs or fragments thereof. Some of this information is relevant to specifying that the frame is an aggregation frame and other information is relevant to specifying how the data is aggregated in the frame body 118 (defining a carriage)), said MAC header including a portion allocated with a unique bit pattern, (Table I; paragraph 46; the header 116 preferably includes a frame control field 122 (unique bit patterns detailed in Table I), a DTAID (direction traffic stream and association identifier) field 124, a frame subbody count field 126, and a sequence control field 128), and means for generating a frame FCS for error detection in the MAC header and the carriage, (Figs. 1, 3 & 5; paragraph 36; Figs. 6 & 11; paragraph 41; aggregation frame 120 comports with conventional 802.11 frame protocol in that it contains a MAC header 116, a frame body 118 and a frame

check sequence (FCS) 134. The FCS 134 enables error detection and is implemented in accordance with conventional 802.11 protocol).

18. Regarding claim 9, the rejection of claim 8 is incorporated and only further limitations will be addressed. Ho discloses a composing apparatus wherein said carriage header includes a compartment count indicating the number of data compartments, a compartment length information indicating the length of each of the data compartment and a header FCS, (Figs. 6 & 11; paragraph 41; aggregation frame 120 contains a MAC header 116, a frame body 118 and a frame check sequence (FCS) 134. MAC header 116 (carriage header) preferably includes a frame subbody count field 126 (compartment count), and a sequence control field 128. The frame body 118 preferably includes one or more subbody length fields 130 (compartment length information); paragraph 44; frame subbody count field 126 indicates the number of frame subbodies 132 contained in the frame 120; paragraph 45; subbody length field 130 specifies the length of the associated MSDU, or fragment thereof, contained in the corresponding subbody 132).

19. Regarding claim 10, the rejection of claim 8 is incorporated and only further limitations will be addressed. Ho discloses a composing apparatus wherein said compartment identifier includes only a compartment sequence control number, (Figs. 6 & 11; paragraph 44; each subbody 132 has an associated sequence control field 128 (compartment identifier sequence control number). The sequence control fields 128 contain sequence control values for each of

the frame subbodies 132. The sequence control values include the sequence number of the MSDU in a corresponding frame subbody field 132).

20. Regarding claim 11, the rejection of claim 8 is incorporated and only further limitations will be addressed. Ho discloses a composing apparatus wherein said compartment identifier includes only a flow identifier and a compartment sequence control number, (Figs. 6 & 11; paragraph 44; sequence control field 128 (compartment identifier sequence control number) may also include a fragment number (flow identifier). All fragments comprising an MSDU are assigned the same sequence number but incremental fragment numbers. Thus, if the corresponding frame subbody field 132 contains a fragment of an MSDU, rather than a complete MSDU, the fragment number in the sequence control field 128 includes the correct fragment number).

21. Regarding claim 12, the rejection of claim 8 is incorporated and only further limitations will be addressed. Ho discloses a composing apparatus wherein said compartment identifier includes only a compartment recipient address, and a compartment sequence control number, (Figs. 6 & 11; paragraph 44; each subbody 132 has an associated sequence control field 128 (compartment identifier sequence control number); paragraph 41; each subbody field 132 contains an MSDU or a fragment of an MSDU; paragraph 38; each fragment is transmitted in a separate frame with its own MAC header (compartment identifier); paragraph 57; a standard 802.11 (MAC) data frame includes four address fields that may include a receiver address and a destination address (compartment recipient address)).

22. Regarding claim 13, the rejection of claim 8 is incorporated and only further limitations will be addressed. Ho discloses a composing apparatus wherein said compartment identifier includes only a compartment recipient address, a flow identifier and compartment sequence control number, (Figs. 6 & 11; paragraph 44; sequence control field 128 (compartment identifier sequence control number) may also include a fragment number (flow identifier). All fragments comprising an MSDU are assigned the same sequence number but incremental fragment numbers. Thus, if the corresponding frame subbody field 132 contains a fragment of an MSDU, rather than a complete MSDU, the fragment number in the sequence control field 128 includes the correct fragment number; paragraph 41; each subbody field 132 contains an MSDU or a fragment of an MSDU; paragraph 38; each fragment is transmitted in a separate frame with its own MAC header (compartment identifier); paragraph 57; a standard 802.11 (MAC) data frame includes four address fields that may include a receiver address and a destination address (compartment recipient address)).

23. Regarding claim 14, the rejection of claim 8 is incorporated and only further limitations will be addressed. Ho discloses a composing apparatus wherein said compartment identifier includes a MAC header, (paragraph 38; each fragment is transmitted in a separate frame with its own MAC header).

24. Regarding claim 17, Ho discloses a computer readable data compartment aggregation packet frame comprising: a plurality of data compartments, (Figs. 6 & 11; paragraph 41; one or

more frame subbody fields 132 (data compartments)), each having a compartment identifier, an MSDU and a compartment FCS, (Figs. 6 & 11; paragraph 41; header 116 preferably includes a frame subbody count field 126, and a sequence control field 128 (compartment identifiers). Each subbody field 132 contains an MSDU or a fragment of an MSDU; paragraph 38; each fragment is transmitted in a separate frame with its own MAC header (compartment identifier) and FCS (compartment FCS) information as well as its own PHY header and preamble (compartment identifiers)), said data compartments being aligned to define a data carriage, (Figs. 6 & 11; paragraph 40; aggregation frame (defined data carriage) permits multiple MSDUs and/or multiple fragments of the same or different MSDUs to be placed into a single 802.11 MAC frame; paragraph 41; aggregation frame 120 contains a MAC header 116, a frame body 118; paragraph 46; aggregation frame 120 includes at least two subbody fields 132 (combined data compartments)), a carriage header located in front of the data carriage to define a carriage, and a MAC header located in front of the carriage, (Figs. 6 & 11; paragraph 46; MAC header 116 (carriage or "aggregation frame" header) and frame body 118 include information pertinent to aggregating MSDUs or fragments thereof. Some of this information is relevant to specifying that the frame is an aggregation frame and other information is relevant to specifying how the data is aggregated in the frame body 118 (defining a carriage)), said MAC header including a portion allocated with a unique bit pattern, (Table I; paragraph 46; the header 116 preferably includes a frame control field 122 (unique bit patterns detailed in Table I), a DTAID (direction traffic stream and association identifier) field 124, a frame subbody count field 126, and a sequence control field 128), and a frame FCS for error detection in the MAC header and the carriage, (Figs. 6 & 11; paragraph 41; aggregation frame 120 comports with

conventional 802.11 frame protocol in that it contains a MAC header 116, a frame body 118 and a frame check sequence (FCS) 134. The FCS 134 enables error detection and is implemented in accordance with conventional 802.11 protocol).

25. Regarding claim 18, the rejection of claim 17 is incorporated and only further limitations will be addressed. Ho discloses a computer readable data compartment aggregation packet frame wherein said carriage header includes a compartment count indicating the number of data compartments, a compartment length information indicating the length of each of the data compartment and a header FCS, (Figs. 6 & 11; paragraph 41; aggregation frame 120 contains a MAC header 116, a frame body 118 and a frame check sequence (FCS) 134. MAC header 116 (carriage header) preferably includes a frame subbody count field 126 (compartment count), and a sequence control field 128. The frame body 118 preferably includes one or more subbody length fields 130 (compartment length information); paragraph 44; frame subbody count field 126 indicates the number of frame subbodies 132 contained in the frame 120; paragraph 45; subbody length field 130 specifies the length of the associated MSDU, or fragment thereof, contained in the corresponding subbody 132).

26. Regarding claim 19, the rejection of claim 17 is incorporated and only further limitations will be addressed. Ho discloses a computer readable data compartment aggregation packet frame wherein said compartment identifier includes only a compartment sequence control number, (Figs. 6 & 11; paragraph 44; each subbody 132 has an associated sequence control field 128 (compartment identifier sequence control number). The sequence control fields 128 contain

sequence control values for each of the frame subbodies 132. The sequence control values include the sequence number of the MSDU in a corresponding frame subbody field 132).

27. Regarding claim 20, the rejection of claim 17 is incorporated and only further limitations will be addressed. Ho discloses a computer readable data compartment aggregation packet frame wherein said compartment identifier includes only a flow identifier and a compartment sequence control number, (Figs. 6 & 11; paragraph 44; sequence control field 128 (compartment identifier sequence control number) may also include a fragment number (flow identifier). All fragments comprising an MSDU are assigned the same sequence number but incremental fragment numbers. Thus, if the corresponding frame subbody field 132 contains a fragment of an MSDU, rather than a complete MSDU, the fragment number in the sequence control field 128 includes the correct fragment number).

28. Regarding claim 21, the rejection of claim 17 is incorporated and only further limitations will be addressed. Ho discloses a computer readable data compartment aggregation packet frame wherein said compartment identifier includes only a compartment recipient address, and a compartment sequence control number, (Figs. 6 & 11; paragraph 44; each subbody 132 has an associated sequence control field 128 (compartment identifier sequence control number); paragraph 41; each subbody field 132 contains an MSDU or a fragment of an MSDU; paragraph 38; each fragment is transmitted in a separate frame with its own MAC header (compartment identifier); paragraph 57; a standard 802.11 (MAC) data frame includes four address fields that may include a receiver address and a destination address (compartment recipient address)).

29. Regarding claim 22, the rejection of claim 17 is incorporated and only further limitations will be addressed. Ho discloses a computer readable data compartment aggregation packet frame wherein said compartment identifier includes only a compartment recipient address, a flow identifier and compartment sequence control number, (Figs. 6 & 11; paragraph 44; sequence control field 128 (compartment identifier sequence control number) may also include a fragment number (flow identifier). All fragments comprising an MSDU are assigned the same sequence number but incremental fragment numbers. Thus, if the corresponding frame subbody field 132 contains a fragment of an MSDU, rather than a complete MSDU, the fragment number in the sequence control field 128 includes the correct fragment number; paragraph 41; each subbody field 132 contains an MSDU or a fragment of an MSDU; paragraph 38; each fragment is transmitted in a separate frame with its own MAC header (compartment identifier); paragraph 57; a standard 802.11 (MAC) data frame includes four address fields that may include a receiver address and a destination address (compartment recipient address)).

30. Regarding claim 23, the rejection of claim 17 is incorporated and only further limitations will be addressed. Ho discloses a computer readable data compartment aggregation packet frame wherein said compartment identifier includes a MAC header, (paragraph 38; each fragment is transmitted in a separate frame with its own MAC header).

31. Claims 15 & 16 are rejected under 35 U.S.C. 102(a) as being anticipated by Yi, et al., (US 20040146067 A1) (hereinafter Yi).

32. Regarding claim 15, Yi discloses a decomposing method for decomposing a data compartment aggregation packet frame having a MAC header, carriage header and a plurality of data compartments, said decomposing method comprising: detecting a unique bit pattern located in a MAC header, (Figs. 10A – 10E; paragraph 89; UE-ID (user equipment identification) type is a field indicating a type of an UE-ID included in a header. Specifically, the UE-ID type identifies a C-RNTI, a U-RNTI, a DSCH-RNTI, a terminal group indicator or a broadcast and multicast service indicator; paragraph 90; a UE-ID is a field (unique bit pattern) including information for identifying (to a detector for detecting) a terminal (UE) that transmits a corresponding MAC-c/sh SDU information for identifying a specific terminal group or information for identifying a specific service related to a corresponding UE; paragraph 105; if terminal identifier (UE-ID) information is included in the MAC-c/sh header, the MAC-c/sh 330 checks whether the terminal identifier (UE-ID) included in the header is identical to (uniquely corresponds to) an identifier (UE-ID) of a terminal to which the MAC-c/sh 330 itself belongs to), separating data compartments, (Figs. 9, 12 & 13; paragraph 99; function of concatenating (and disassembling (separating)) of the MAC-c/sh SDU (data compartments) is added to the related art MAC-c/sh sub-layer in the UTRAN and terminal (UE), respectively; paragraph 104; MAC-c/sh 330 removes the MAC-c/sh header from the received MAC-c/sh PDU, and disassembles the concatenated MAC-c/sh SDUs (step S40)), and processing the data compartments, (Figs. 6, 7, 13 & 14; paragraph 104; then, the MAC-c/sh 330 transfers the disassembled MAC-c/sh SDUs to an upper layer 340 (step S50); paragraph 101; upper layer is

the MAC-d if a dedicated logical channel is used (Figs. 6 & 7 detail processing MAC-d sublayer (paragraph 36))).

33. Regarding claim 16, Yi discloses a decomposing apparatus for decomposing a data compartment aggregation packet frame having a MAC header, carriage header and a plurality of data compartments, said decomposing apparatus comprising: means for detecting a unique bit pattern located in a MAC header, (Figs. 10A – 10E); paragraph 89; UE-ID (user equipment identification) type is a field indicating a type of an UE-ID included in a header. Specifically, the UE-ID type identifies a C-RNTI, a U-RNTI, a DSCH-RNTI, a terminal group indicator or a broadcast and multicast service indicator; paragraph 90; a UE-ID is a field (unique bit pattern) including information for identifying (to a detector for detecting) a terminal (UE) that transmits a corresponding MAC-c/sh SDU information for identifying a specific terminal group or information for identifying a specific service related to a corresponding UE; paragraph 105; if terminal identifier (UE-ID) information is included in the MAC-c/sh header, the MAC-c/sh 330 checks whether the terminal identifier (UE-ID) included in the header is identical to (uniquely corresponds to) an identifier (UE-ID) of a terminal to which the MAC-c/sh 330 itself belongs to), means for separating data compartments, (Figs. 9, 12 & 13; paragraph 99; function of concatenating (and disassembling (separating)) of the MAC-c/sh SDU (data compartments) is added to the related art MAC-c/sh sub-layer in the UTRAN and terminal (UE), respectively; paragraph 104; MAC-c/sh 330 removes the MAC-c/sh header from the received MAC-c/sh PDU, and disassembles the concatenated MAC-c/sh SDUs (step S40)), and means for processing the data compartments, (Figs. 6, 7, 13 & 14; paragraph 104; then, the MAC-c/sh 330 transfers

the disassembled MAC-c/sh SDUs to an upper layer 340 (step S50); paragraph 101; upper layer is the MAC-d if a dedicated logical channel is used (Figs. 6 & 7 detail processing MAC-d sublayer (paragraph 36))).

Claim Rejections - 35 USC § 103

34. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

35. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ho in view of Yi.

36. Regarding claim 24, the rejection of claim 1 is incorporated and only further limitations will be addressed. Ho discloses a composing method wherein said compartment identifier includes a compartment recipient address, (paragraph 57; a standard MAC data frame. A standard 802.11 data frame includes four address fields requiring 6 octets each, 24 octets total. The addresses in these fields depends on the types of data frame. For example, the four address fields may include a receiver address and a destination address (recipient addresses)).

However, Ho does not explicitly teach *said MAC header includes a non-unicast recipient address*.

Yi explicitly discloses said MAC header includes a non-unicast recipient address, (Figs. 10A – 10E); paragraph 86; only one UE-ID (user equipment identification = recipient

address) field and only one UE-ID type field are transmitted during one TTI (transmission time interval); paragraph 89; UE-ID type is a field indicating a type of an UE-ID included in a header. Specifically, the UE-ID type identifies a broadcast and multicast service indicator (non-unicast recipient address).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Ho by incorporating the teaching of Yi to eliminate redundancy in transmitting protocol data units, and to more effectively conserve radio resources (Yi; paragraph 49).

Conclusion

37. The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See MPEP 707.05(c).

38. The following references teach methods and devices involved in composing/transmitting and receiving/decomposing compound/composite frame and packet structures generally:

US 20050063378 A1	Kadous, Tamer
US 6834310 B2	Munger; Edmund Colby et al.
US 7359331 B2	Takamichi; Toru
US 20040208151 A1	Haverinen, Henry et al.
US 20070014229 A1	Hepler; Edward L. et al.

US 20060095615 A1	Kim; Jong Won et al.
US 20030079169 A1	Ho, Jin-Meng et al.
US 5164938 A	Jurkevich; Mark et al.
US 7317693 B1	Roesch; Martin et al.
US 20050076145 A1	Ben-Zvi, Nir et al.
US 20030235197 A1	Wentink, Maarten Menzo
US 5321693 A	Perlman; Radia J.

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Wood whose telephone number is (571) 270-7318. The examiner can normally be reached on Monday to Friday 8:00 AM to 4:00 PM.

If attempts to reach the above noted Examiner by telephone are unsuccessful, the Examiner's supervisor, Seema Rao, can be reached at the following telephone number: (571)272-3174 .

The fax phone number for the organization where this application or proceeding is assigned is 571-274-7318. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions

on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/S.W./
February 11, 2009
Steven A. Wood
Examiner
Art Unit 2416

/Seema S. Rao/
Supervisory Patent Examiner, Art Unit 2416